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SWEETOLETHAEUS, A NEW GENUS OF LETHAEINI FROM SOUTH AFRICA, WITH THE DESCRIPTION OF TWO NEW SPECIES, ONE FROM TERMITE NESTS

(HEMIPTERA: LYGAEIDAE)[1]

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ABSTRACT—A new genus, **Sweetolethaeus**, is described in the lygaeid tribe Lethaeini. Two new species **S. macchiaensis** (type species) and **S. termiticolus**, both from South Africa, are described. Descriptions of nymphs of both species are included. *S. termiticolus* was taken in a nest of the termite *Trinervitermes trinervoides* and shows morphological features believed to be associated with this habitat.

When I published my study of South African Lygaeidae in 1964 I had before me three specimens of a small lethaeine from the Brinck-Rudebeck expeditions which I was unable to place taxonomically. The extensive collections by my colleague Dr. M. H. Sweet in the southwestern Cape Province in 1967 revealed this to be a common species in the area.

Subsequently Dr. William Coaton placed in my hands for study a series of specimens taken in a mound of the termite *Trinervitermes trinervoides* (Sjöst.) at Phillipstown, Cape Province which prove to be congeneric with the species noted above. These two species are undescribed and represent a new genus described below. All measurements are in millimeters.

[1] This work was supported by National Science Foundation Grant GB7968.

Sweetolethaeus n. gen.

Head, pronotum and scutellum with small discrete punctures, intervening areas smooth and non-rugulose, area between punctures wider than diameter of punctures; punctures of clavus and corium conspicuously larger than those of head, pronotum and scutellum; surface subshining, not polished, a pair of widely separated ovoid iridescent areas present on head basally; head strongly convex, tylus little exceeding juga, latter carinate laterally; eyes small, in contact with anterior margin of pronotum, ocelli minute, placed much closer to eyes than to one another; bucculae short, ovoid; antennae slender, segments 1 and 2 terete, 3 and 4 narrowly fusiform; pronotum subquadrate, lateral margins distinctly explanate, more strongly so on anterior ½, transverse impression absent, no anterior "collar" area present; posterior margin distinctly concave; scutellum flat, lacking a median carina; clavus with 4 rows of punctures, lateral corial margins explanate, apical margin convex, hemelytra lacking closed basal cells, the next to mesal vein strongly sinuate, membrane with a distinct transverse crease near base; posterior margin of ♂ abdominal sternum 7 lacking spines; fore femora moderately incrassate with 2–4 sharp spines below; posterior margin of metapleuron angulate; scent gland auricle short and bluntly rounded.

Type species: *Sweetolethaeus macchiaensis*, n. sp.

Sweetolethaeus is quite closely related to *Noteolethaeus* Woodward and Slater, especially to *N. leeui* Woodward and Slater, despite the considerable difference in superficial appearance. The two taxa agree in possessing a strongly convex head with minute ocelli, in the lack of a distinct anterior pronotal collar (vaguely developed in *Noteolethaeus*), in having an explanate lateral pronotal margin, a concave posterior pronotal margin, a convex apical corial margin, in lacking closed cells in the membrane of the fore wing, in having a small lobate scent gland auricle, similar spines on the fore femora and fusiform third and fourth antennal segments. The two genera are readily separable by (1) the smooth dorsal surface of *Sweetolethaeus* with the small punctures (extremely reduced in *termiticolus*) well separated from one another whereas in *Noteolethaeus* the punctures are coarse, closely set, with the intervening areas irregularly raised to give a strongly rugose appearance to the dorsal surface, (2) the four distinct rows of claval punctures in *Sweetolethaeus* (these sometimes irregular in *termiticolus*), (3) lack of a transverse pronotal impression in *Sweetolethaeus* as well as (4) less strongly elevated corial veins (5) more strongly lobate bucculae and (6) very feebly sinuate lateral corial margins.

Sweetolethaeus is a typical member of the Lethaeini, possessing all of the characteristics used by Ashlock (1964) in his redefinition and limitation of the tribe.

From such related genera as *Lethaeus* Dallas, *Neolethaeus* Distant and *Lophoraglius* Wagner the present genus may be separated by the lack of closed cells in the wing membrane and the concave posterior

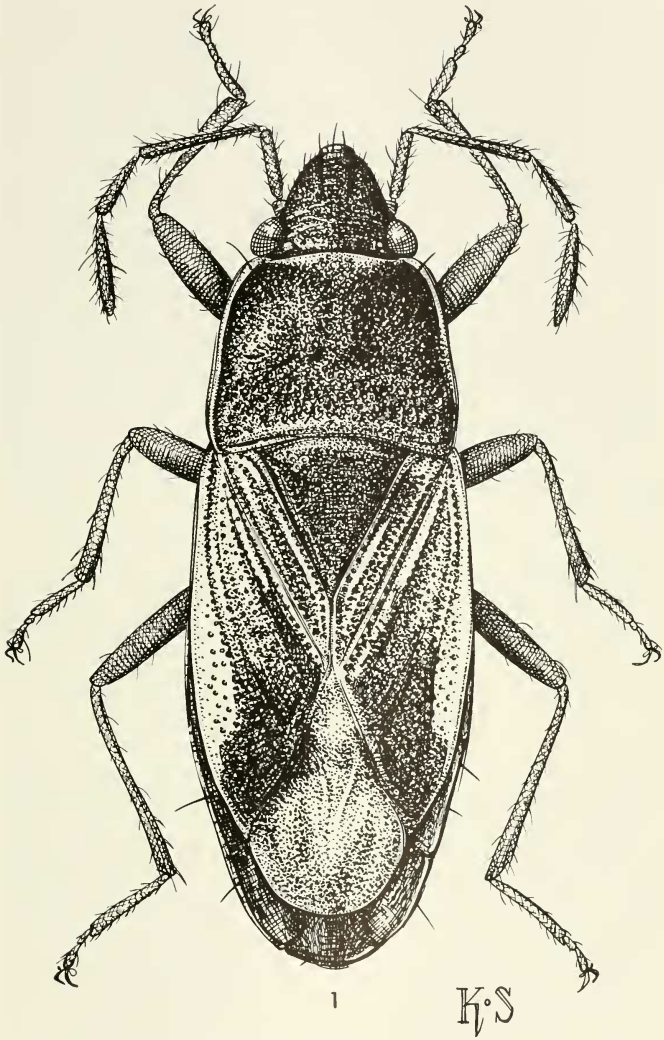


Fig. 1. *Sweetolethaeus macciaensis*, n. gen., n. sp., dorsal view.

pronotal margin. In addition it differs from *Lophoraglius* by lacking a distinct anterior pronotal collar, a transverse pronotal impression, a polished dorsal surface and by the minute ocelli; from *Neolethaeus* by the pronotal collar, by the lack of spinose projections on the posterior margin of abdominal sternum seven in males, and the presence of at most a single distal spine on the posterior femora; and from *Lethaeus* by the explanate lateral pronotal margin and presence of a large seta near the antero-lateral pronotal margins.

Sweetolethaeus bears some habitus resemblance to *Lamproceps* Reuter, but is not actually closely related. It may readily be distinguished by the presence of four rather than three rows of claval punctures, the distinctly explanate lateral pronotal margins, lack of elongate upstanding hairs on the dorsal surface, pronotal punctures present and as large as those on scutellum (in *Lamproceps* the pronotum is almost impunctate and the scutellum has large conspicuous punctures over the entire surface), a rounded lobate metathoracic scent gland auricle (rather than posteriorly hookshaped), and a concave rather than straight posterior pronotal margin.

This genus is named in honor of Dr. Merrill H. Sweet of Texas A. & M. University in recognition of his major contributions to the systematics and ecology of the Rhyparochrominae.

Key to the Species of **Sweetolethaeus**

1. An elongate seta present near each antero-lateral pronotal angle; 3–4 stout spines present on 1st antennal segment; conspicuous posterior tibial spines present along entire shaft ..... *macchiaensis*

   Elongate seta absent near each antero-lateral pronotal angle; 1st antennal segment lacking stout spines; conspicuous hind tibial spines restricted to distal ⅓ of shaft ..... *termiticolus*

Sweetolethaeus macchiaensis, n. sp.
(Fig. 1)

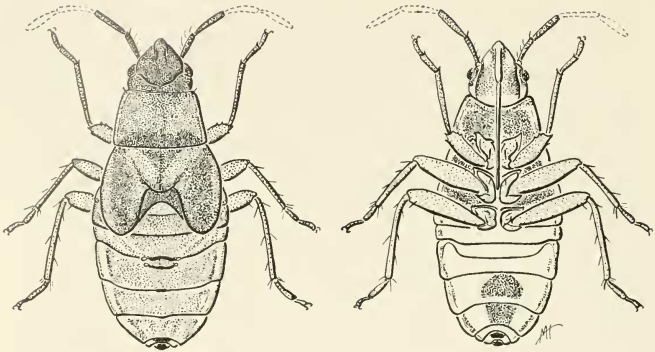
Elliptical; head, pronotum and scutellum dark brown to black, apex of tylus, anterior margin of pronotum on either side of midline and anterior ½ of explanate lateral pronotal margin contrastingly testaceous; hemelytra striped and mottled with dark brown and testaceous markings (see fig. 1); ventral and pleural surfaces nearly uniformly dark chocolate brown; femora dark red-brown, strongly contrasting with bright yellow tibiae and tarsi; antennal segments 1 and 2 reddish brown, 3 and 4 paler yellowish brown; body surface appearing nearly glabrous (extremely short minute hairs present in punctures), a single elongate seta present near anterior end of pronotal explanate margin; head, pronotum and scutellum nearly evenly and finely punctate, area of calli almost completely impunctate, clavus with 4 rows of punctures, the median rows placed closer to one another than to lateral row and coalescing anteriorly, corium with a closely set row of punctures adjacent to claval suture and laterad of cubital and radial veins, irregularly punctate over remainder of corial surface.

Head short, broad, slightly declivent, anteriorly broadly rounded, eyes sessile, head width less than width across anterior pronotal margin, bucculae visible from above, tylus with 3 distinct anteriorly directed setae, length head .40, width .76, interocular space .50; pronotum slightly narrowed anteriorly, lateral margins feebly sinuate, explanate margins more broadly developed on anterior ½, disc nearly flat, length pronotum .74, width 1.28; scutellum large, flat, lacking a median elevation, length scutellum .82, width .80; claval commissure much shorter than scutellar length (length .40), corium very slightly convex to level of posterior end of claval commissure, hence tapering distad, membrane attaining apex of abdomen, distance apex clavus—apex corium .72, apex corium—apex abdomen .50; thoracic pleura and sterna subshining, evaporative area large, occupying mesal (ventral) ⅔ of metapleuron with dorsal margin evenly truncate and extending onto posterior area of mesopleuron to acetabular fracture; fore femora moderately incrassate, armed below on distal ⅓ with 4 spines, the 3 distal spines short, sharp and set close to end of femora, hind femora with a single small spine below near distal end, hind tibiae with sharp spines present along entire shaft; bucculae large, short and strongly lobate, not extending nearly to antennal bases, produced considerably ventrad of labium; labium extending well between mesocoxae, length labial segments I .50, II .40, III .33, IV .34; antennae slender, segments 1 and 2 terete, 3 and 4 narrowly fusiform, segment 1 bearing 3–4 long sharp spines, length antennal segments I .32, II .56, III .40, IV .46; total length 3.48.

Holotype: ♂, REPUBLIC OF SOUTH AFRICA: *Cape Province*: Kirstenbosch Gardens, Cape Town, 29 January 1968 (J. A. & S. Slater, T. Schuh, M. H. Sweet). In National Collection of Insects, Pretoria.

Paratypes: REPUBLIC OF SOUTH AFRICA: *Cape Province*: 25 ♂, 13 ♀ same data as holotype Nos. 19, 21—11 ♂, 9 ♀ Hermanus, Feb. 1, 1968 (S.S.S.S.)[2] No. 167—1 ♂, 1 ♀ Hermanus, Fernkloof Nat. Res., Feb. 3, 1968 (S.S.S.S.)—1 ♀ Hermanus Lagoon, 20.XII.1950 (Brinck & Rudebeck) Loc. No. 91—7 ♂, 1 ♀ 2 mi. S. Goukamma, Knysna, Feb. 8, 1968 (S.S.S.S.) No. 184—3 ♂, 7 ♀ Gydo Pass, 10 mi. N. Ceres, El. 3340′ (M.H.S.)[3] No. 39—1 ♂ Cape Pt. Nat. Res., Cp. Point, Sept. 15, 1967 (M.H.S.) No. 3—3 ♂, 10 ♀ same locality, Jan. 30, 1968 (S.S.S.S.) No. 96—1 ♂ same locality, 7 mi. N. Cape Point, El. 450′, Oct. 11, 1967 (M.H.S.) No. 26—7 ♂, 7 ♀ Noordhoek Beach, Cape Peninsula, Jan. 23, 1968 (S.S.S.S.)—1 ♀ Bains Kloof Pass, Summit, Jan. 21, 1968 (S.S.S.S.)—1 ♀ 6 mi. E. Plettenberg Bay, El. 500′, Feb. 12–13, 1968 (S.S.S.S.)—1 ♀ Grootvatersbosch For. Res. 14 mi. N. Heidelberg, Feb. 5, 1968 (S.S.S.S.)—1 ♀ Algoa Bay, Capland, Oct. 27, 1868 (Dr. Brauns)—1 ♂ Oude Kraal, 20.X.1950 (Brinck & Rudebeck) Loc. No. 11—1 ♂ Signal Hill, El. 1100′, Cape Penin., 9 Oct. 1967 (M.H.S.) No. 24—6 ♂, 5 ♀ Cape Pt. Nature Reserve, 3 Dec., 1967 (M.H.S.) Nos. 96, 98—2 ♂, 3 ♀ Kirstenbosch Bot. Garden, 29 Sept., 1967 (M.H.S.) Nos. 19, 21—11 ♂, 12 ♀ same locality, El. 400′,

[2] J. A. and S. Slater, T. Schuh, M. H. Sweet.
[3] M. H. Sweet.



Figs. 2–3. *Sweetolethaeus macchiaensis*, n. gen., n. sp., fifth instar nymph: 2, dorsal view; 3, ventral view.

Table Mt. W. Slope, Dec. 6, 1967 (M.H.S.) Nos. 101, 102— 12 ♂, 10 ♀ Muizenberg. Mt., El. 500′, Cape Penin. 9–13 Nov., 1967 (M.H.S.) No. 71—1 ♂ Kirstenbosch, Skeleton Gorge, El. 1000′, Table Mt., Oct. 30, 1967 (M.H.S.) No. 54—1 ♂, 1 ♀ Constantia, Cape Penin., 29 Sept., 1967 (M.H.S.) No. 18—1 ♂, 1 ♀ 13 mi. S. Oudtshoorn, E. 1300′, 20 Nov., 1967 (M.H.S.) No. 85—1 ♂ East Knysna Head, El. 200′, 22 Nov., 1967 (M.H.S.) No. 90—3 ♂ Saldanha Beach, 3 Nov., 1967 (M.H.S.) No. 57—1 ♂ just North Ceres, El. 1400′, 20 Oct., 1967 (M.H.S.) No. 42—2 ♂, 3 ♀ Swartberg Pass, 25 mi. N. Oudtshoorn, El. 5200′, 19 Nov., 1967 (M.H.S.) No. 81—1 ♂ Constantia near Alphen, Cape Penin., 350′, 10 Dec., 1967 (M.H.S.) No. 108—2 ♂ Muizenberg Mt., Cape Penin., El. 200′, 8 Oct., 1967 (M.H.S.) No. 23—6 ♂, 5 ♀ just W. of Knysna, 8 Feb., 1968 (S.S.S.S.) No. 185—1 ♂ 20 mi. S. Porterville, trib. Berg. River, 27 Jan., 1968 (S.S.S.S.)—1 ♀ Tradouw's Pass, El. 900′, 10 mi. N. Swellendam, 15 Nov., 1967 (M.H.S.) No. 72—1 ♀ 1 mi. W. of Clanwilliam, El. 450′, 6 Nov., 1967 (M.H.S.) No. 65—1 ♂ Stellenbosch, Capland, Sept. 30, 1925 (Dr. H. Brauns). In National Collection of Insects, Pretoria, Transvaal Museum, Lund University Museum, J. A. Slater and M. H. Sweet collections.

There is very little variation present in the type series. The antennae may be nearly uniformly pale yellowish brown or all dark reddish brown and the pale band along the anterior pronotal margin is sometimes complete across the meson. The entire series is essentially macropterous, although many specimens are submacropterous with the membrane slightly shortened and not reaching the apex of the abdomen.

S. macchiaensis appears to be restricted in distribution to the south-

ern Cape in an area largely coincident with the distribution of the Cape Floral assemblage which is chiefly occupied by the macchia. This area has a very distinctive assemblage of rhyparochromine species, a number of which appear to have similar distributions, and some of which are endemic genera.

S. macchiaensis is a litter living species often found in grassy areas where it apparently feeds on grass seeds. Ecological information will be discussed by Dr. Sweet in a subsequent contribution.

This species is larger than *termiticolus* and it has much darker coloration, a much more conspicuously punctate head, pronotum and scutellum, much larger bucculae and is further distinguishable by the characters given in the key.

Fifth instar nymph: (alcohol) same locality as holotype (figs. 2, 3)

General coloration bright honey yellow on head, pronotum, scutellum, wing pads and appendages, infuscated with brown along anterior and posterior pronotal margins, distally on scutellum and wing pads; abdominal terga mottled with red with irregular pale transverse stripes across tergal sutures and as a longitudinal lateral stripe, 1st tergum with red lateral margin; dorsal abdominal scent gland areas narrowly dark brown as are 8th and 9th terga; below with a dark brown patch below each eye, thoracic pleura heavily infuscated with dark brown and a broad dark irregular brown area on abdominal venter midway between meson and lateral margins; sterna 5, 6 and 7 with a large quadrate mesal light brown patch.

Head connate, moderately convex across vertex, epicranial stem extremely short, almost absent, arms sinuate, length head .40, width .70, interocular space .48; pronotum quadrate, flat, all margins straight, length pronotum .56, width 1.0; mesothoracic wing pads broad, lateral margins explanate, extending midway over 3rd abdominal tergum, length wing pads .86; abdomen elliptical, scent gland opening between terga 3 and 4 very broad, that between 3 and 4 yoke-shaped, between 4 and 5 curving evenly anteriorly from meson to lateral openings, opening between terga 5 and 6 reduced to a minute dark central spot; labium attaining mesocoxae, length labial segments I .40, II .36, III .32, IV .30; length antennal segments I .20, II .47, III and IV missing; total length 3.16.

Second instar (?): (alcohol) 2 mi. S. Goukamma, Knysna area, Feb. 8, 1968 (S.S.S.S.)

Similar in color and structure to instar V, pronotum more heavily infuscated with brown; mesonotum completely pale brown as are a pair of laterally broadened transversely triangular patches on either side of midline of anterior margin of metanotum; scent gland openings between terga 3 and 4 and 5 slightly and evenly curving anteriorly from meson laterally, brown areas anterior to each opening broader than posterior darkened area; opening between terga 5 and 6 relatively larger than in instar V; abdomen nearly uniformly mottled with red; antennae relatively stout; segments 3 and 4 light red-brown as are patches on segments 1 and 2; length head .40, width .62, interocular space .42; length pronotum .36, width .84; length labial segments I .36, II .35, III .23, IV 32; length antennal segments I .24, II .32, III .23, IV .38; total length 2.80.

Sweetolethaeus termiticolus, n. sp.

Elliptical; head, pronotum and scutellum dark red-brown with anterior margin of pronotum between eyes, anterior ½ of explanate lateral margins, antennae and apex of tylus contrastingly testaceous; 4th antennal segment darker brown; femora light brown with distal ends, tibiae and tarsi yellow, tibiae somewhat infuscated mesally; hemelytra testaceous, marked with brown as in *macchiaensis*, but these markings diffuse light brown, membrane hyaline, lacking mesal brown patch; ventral and pleural surface dark red-brown; body nearly glabrous with scattered very short inconspicuous decumbent hairs, pronotum lacking an elongate seta at antero-lateral angles; head, pronotum and scutellum finely rugulose, lacking distinct punctures, punctures on wing very much smaller and less distinct than in *macchiaensis*, often obsolete.

Head short, broad, bluntly rounded anteriorly, bucculae not visible from above, tylus extending ½ way to distal end of 1st antennal segment, lacking distinct anteriorly directed setae, length head .42, width .70, interocular space .50; pronotum subquadrate, flat, lightly impressed in calli area, nearly twice as wide as long, length pronotum .58, width 1.06; length scutellum .70, width .70; hemelytra with claval commissure much shorter than scutellum (length .34), membrane reaching apex of abdomen, inner rows of punctures on corium irregular, distance apex clavus—apex corium .42, apex corium—apex abdomen .70; scent gland auricle as in *macchiaensis* but evaporative area less extensive, covering only ½ of metapleuron and with dorsal margin irregular, not truncate; fore femora moderately incrassate, armed below near distal end with 2 short sharp spines (in some specimens a single spine present), hind femora mutic, spines on tibiae confined to distal ⅕ (actually under very high magnification extremely small spines are present along entire shaft, but greatly reduced); bucculae short, ovoid, not or barely extending ventrad of labium; labium extending well between mesocoxae, length labial segments I .44, II .32, III .26, IV .26; antennae with segments 1 and 2 terete, 3 and 4 narrowly fusiform, segment 1 lacking sharp spines, at most with 2 setae present, length antennal segments I .22, II .42, III .32, IV .34; total length 3.04.

Holotype: ♂, REPUBLIC OF SOUTH AFRICA: *Cape Province*: 1 mi. SW Phillipstown, 23 Oct., 1963, Ex. nest *Trinervitermes trinervoides* (J. L. Sheasby). In National Collection of Insects, Pretoria.

Paratypes: 3 ♂, 3 ♀ same data as holotype. In National Collection of Insects, Pretoria and J. A. Slater collections.

There is very little variation in the type series other than in the reduction of the fore femoral spines which sometimes are very small or reduced to a single spine. The female paratypes are submacropterous, with the membrane not attaining the apex of the abdomen, reaching only onto the anterior half of tergum seven.

S. termiticolus is easily distinguishable from *macchiaensis* by its smaller size and lighter coloration (in the latter the head, pronotum, scutellum and wing markings are nearly black), by the lack of an elongate seta on each antero-lateral pronotal angle, the lack of stout sharp spines on the first antennal segment (three to four are present in *macchiaensis*), by lacking setae on the apex of the tylus, by having

a finely rugulose rather than distinctly punctate head, pronotum and scutellum, by having the tibial spines confined to the distal one-fifth rather than present all along the shaft, by the much smaller bucculae, and by the relatively short and wide pronotum.

The type series from Phillipstown, which is in the false Upper Karroo (Acocks (1953) veld type 36), was collected by J. L. Sheasby in mounds of *Trinervitermes trinervoides* (Sjöst). Dr. Coaton informs me that this termite "constructs domed mounds of extremely hard dirt matrix with a highly cellular honey-combed interior. It is a harvester which emerges from foraging ports by night to glean grass, in the form of lengths of leaves, stems and seed heads which is stocked in the mounds. Reserve food material is concentrated mainly in the peripheral cells of the mound beneath the center crust where it matures prior to consumption. These termites feed on cellulose and it seems more than likely that unconsumed starchy seeds will remain in the periphery of the mound where the lygaeid nymphs and adults were found."

From this statement it seems probable that this species feeds on seeds accumulated by the termites. The lygaeid shows morphological features which indicate that it will prove to be adapted to a termite association. Most of the differences shown by *S. termiticolus* relative to *macchiaensis* are reduction features, presumably developed coincident with a sheltered habitat, such as the relatively pale coloration, loss of dorsal punctures, and loss of setae on the pronotum, antennae and legs. The cuticle also appears to be thinner and more delicate in this species.

I am aware of only a few previous indications of a lygaeid-termite association. Breddin (1904) described *Fontejanus wasmanni* from the nests of *Eutermes biformis* Wasmann in India and notes a specimen of *Horvathiolus delicatulus* Stål associated with *Termes natalensis* in the Sudan. In neither case is the nature of the relationship mentioned. Schumacher (1913) described *Lethaeus termitarum* from "Windhuk, Damaraland," stating only that it "leben bei den danebenstechenden Termiten." I have not been able to definitely associate this species, but from the description it may well be a true *Lethaeus* related to *lethierryi* Puton. It is a much larger species than *S. termiticolus* and evidently it is not congeneric.

At Pafuri in the northwest corner of Kruger National Park we took a series of a lethaeine related to the genus *Orbellis* Distant in runs or tubes of the termite *Schedorhinotermes lamaninus* (Sjöst.) under the bark of a large fallen limb of *Ficus sycamorus*. The lygaeids were present in both active and apparently abandoned runs but more numerous in the latter. This species was also abundant in large numbers on the ground adjacent to the fallen limb. Unfortunately our disturbance of the habitat made it impossible to determine the type of association involved.

Fifth instar nymph: (pinned) same locality as holotype.

General coloration honey yellow on head, pronotum, scutellum, wing pads and appendages; abdomen opaque white, scent gland openings and small mesal spot on terga 8 and 9 light brown, sterna 6 and 7 with broader light brown mesal spots, 8 and 9 with small mesal spots.

Form very similar to *macchiaensis* but scent gland opening between terga 3 and 4 nearly straight rather than yoke-shaped; length head .40, width .64, interocular space .48; length pronotum .48, width .92; length wing pad .86; length labial segments I .26, II .28, III .22, IV .20; length antennal segments I .22, II .38, III .28, IV .32; total length 2.82.

Fourth instar: (pinned) same locality.

Very similar to 5th instar; appendages nearly white; length head .38, width .58, interocular space .46; length pronotum .36, width .80; length wing pad .44; length labial segments I .28, II .24, III .20, IV .18; length antennal segments I .20, II .32, III .26, IV .32; total length 2.30.

Third instar: (pinned) same locality.

Very similar to 4th; length head .36, width .52, interocular space .42; length pronotum .25, width .78; length wing pad .34; length labial segments I .26, II .26, III & IV obscured; length antennal segments I .16, II .28, III .24, IV .30; total length 1.98.

The nymphs of this species can be separated from *macchiaensis* nymphs by the uniformly white abdomen which lacks the red mottled coloration, and (in the fifth instar) by the straight 4–5 scent gland opening which is yoke-shaped in *macchiaensis*.

Acknowledgments

I wish to express my deep appreciation to the following: Dr. W. L. Coaton (National Collection of Insects, Pretoria) for determination of the termites, information concerning the habits of *Trinervitermes*, allowing me to study the series of *Sweetolethaeus termiticolus* and for making facilities and financial support available in South Africa in 1967–1968; Mr. J. L. Sheasby (National Collection of Insects, Pretoria) for collecting the type series of *S. termiticolus*; Dr. M. H. Sweet (Texas A. & M. University) for making material of *S. macchiaensis* available to me and for much assistance in the field; Mr. Toby Schuh (University of Connecticut) and Mr. Samuel Slater for aid in the collecting and processing of material; Miss Karen Stoutsenberger (Gray Herbarium, Harvard University) and Miss Mary Hubbard (University of Connecticut) for preparation of the illustrations; Dr. Per Brinck (Lund University) and Dr. L. Vari (Transvaal Museum) for the loan of material; Mrs. Darleen Wilcox (University of Connecticut) for extensive aid in the preparation of the manuscript and to the University of Connecticut Research Foundation for financial assistance.

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A NEW SPECIES OF CULICOIDES FROM COLOMBIA

(DIPTERA: CERATOPOGONIDAE)[1]

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ABSTRACT—This paper describes *Culicoides* **florenciae** n. sp. of the *debilipalpis* gp. It was collected near Florencia, Colombia, on the eastern slope of the eastern Andes by the Rio Hacha at 1000 m elevation. A comparison with closely related species is included.

While on a collecting trip in Colombia in August and September, 1969, I came upon a site on the eastern side of the Eastern Cordillera of the Andes which yielded an apparently new species of *Culicoides* of the *debilipalpis* group. The type habitat is the sandy bank of the Rio Hacha, a river which flows down the eastern side of the Eastern Andes and eventually empties into the Rio Orteguasa, a tributary of the Rio Caqueta. The collecting site was at about 1000 m elevation not far from the Garzón-Florencia road in the province of Caqueta. This is a densely forested, but inhabited region, containing typically amazonian vegetation.

While crossing a footbridge over the river, I became aware of these insects because of their painful bites. Upon descending to the river bank I was able to collect specimens from my exposed arms with an aspirator. The time of day was about 1500 on September 2, 1969. All specimens were feeding or beginning to feed when captured. They were preserved in 70% ethyl alcohol and later mounted on slides using the technique of Wirth and Blanton (1959).

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